

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000689**Date Inspected:** 18-Oct-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Changxing Island**CWI Name:** Arthur Peterson**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Closed rib Trial**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Larry Viars was present to observe the welding of Orthotropic Box Girder (OBG) Mock-up closed rib trial, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Caltrans QA Inspector monitored welding parameters and performed visual observations of the Orthotropic Box Girder (OBG) closed rib weld trial. QA Inspector Viars monitored amperage of each section of welding on Gas Metal Arc Welding (GMAW) for the weld root and Submerged Arc Welding for the Cover pass. Semi automatic welding was performed on both processes with a welding head manipulator. Closed rib welds # 1, 2, 5, 6, 9 and 10 were welded simultaneously in 5 sections approximately 2 meters in length. Closed rib welds # 3, 4, 7 and 8 were welded in the same manor. Submerged Arc Welding of weld joint # 3, 4, 7 and 8 were performed on swing shift.

Gas Metal Arc Welding of the root was performed in accordance to WPS-B-T-2342-U1 (U-ribs). The Submerged Arc Welding was performed in accordance to WPS-B-T-2322-U1 (U-ribs). Amperage of both processes were within the tolerance of the applicable welding procedure specification.

Porosity that exceeded AWS D1.5 requirements was noted on weld # 10 sections 1 and 2.

During the Submerged Arc Welding the termination of first section on 2170 mm from right end, travel stopped but welding continued causing areas of undercut up to 5 mm in depth in the weld and adjacent base metal on weld # 1 and # 6. At the end of second section the same anomaly was noted on weld # 1.

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Caltrans QA Inspector monitored welding operations and performed visual observations of the OBG closed rib weld trial.



Summary of Conversations:

As identified within the contents of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Viars,Larry	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
